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ABSTRACT

This paper considers several philosophies as they relate to student assessment. Realists believe that one can know the real world as it truly is. As a philosophy of testing and measurement, realism is characterized by behaviorally stated objectives, measurement-driven instruction, and report cards, along with the use of programmed materials. Realism emphasizes that measurable results from students can be obtained to show precisely how well a student is achieving. Existentialists believe that each person should learn to make choices from the alternatives available in society. As a philosophy of education, existentialism does not advocate predetermined objectives for student achievement or testing to determine achievement. Individual motivation is central, and feelings are recognized as the most important part of the human condition. Experimentalists believe that one cannot know ultimate reality, but one can experience it. Experimentalists believe in integrating school and society. Students should be assessed for their problem-solving ability, and evaluation consists of using relevant sources of information to solve a problem and to test hypotheses. Idealists believe in a subject-centered curriculum, and idealism emphasizes a coherence theory in testing. Students should be able to use reason and logic effectively and to honor eternal values. Perennialism is a philosophy directly related to idealism that calls for a curriculum based on the "Great Books of the Western World" (one of the greatest publishing ventures of the 20th century, a reference work consisting of 60 volumes with 517 works by 130 authors spanning 30 centuries, produced by Encyclopaedia Britannica), with a standardized curriculum that regards childhood and youth as obstacles to be overcome through education. (SLD)

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Philosophy of Testing and Measurement

Marlow Ediger

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PHILOSOPHY OF TESTING AND MEASUREMENT

Students of education have noticed the tremendous emphasis being placed upon testing and measuring of student achievement. News media frequently criticizes pupil achievement in terms of test results achieved. It appears that these test scores cannot go high enough to please news reporters and writers of news items. Testing and measuring pupil achievement are sensitive items to accomplish. Teachers and school administrators may be very critical of items contained in a test. They also might well criticize the time allotted for giving the many tests to pupils as well as that more than a state mandated test needs to provide data on pupil achievement. One test then is not adequate to show what pupils have learned.

The author will analyze diverse procedures to appraise learner achievement using realism, existentialism, experimentalism, and idealism as different philosophies of appraisal.

Realism and Assessment of Student Progress

Realists believe that one can know the real world as it truly is, in whole or in part. Thus for example, chemists have identified 107 elements which make up the natural environment. Each compound can be stated in terms of the inherent elements. Sugar then contains the following elements: C6 H12 O6, C=carbon, H=hydrogen, and O=oxygen. The exact number of atoms in a molecule of sugar such is 6 atoms of carbon, 12 of hydrogen, and 6 of oxygen. Measurable amounts, involving accuracy, are in each compound, such as sugar.

The model of science and mathematics with its precision has the been applied to determining student achievement. Standardized tests such as The Iowa Test of Basic Skills are used to measure learner achievement and progress. There may be a single percentile given for student achievement from taking the total test. For each component part, such as mathematics, there may be a separate percentile from the other academic areas and skills as measured by The Iowa Test of Basic Skills. A percentile is a single numeral indicating how well the student is achieving.

When the measurement movement in education came forth in the early 1900s, E. L. Thorndike, Professor at Columbia University in New York City, stressed the thesis that "whatever exists, exists in some amount, and if it exists in some amount, it can be measured." Thorndike and his associates developed

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tests to measure handwriting progress, arithmetic achievement, and student learning in general. The measurement movement survived in time/place and is extremely important presently to use in ascertaining student achievement. Pertaining to E. L. Thorndike, Thayer (1970) wrote: The early years of the twentieth century were conscious in the application of science to all phases of business and industry. It was applied to not merely the invention of new products and processes but to the details of organization and management designed to promote economy and efficiency. Experts trained in scientific management studied carefully the performances of workers on the job with results so fruitful in economy and efficiency that many came to be seen in "job analysis" possibilities of application not only to vocational education but to the reform of other aspects of education as well. All that was needed it seemed, was to identify the specific outcomes by insuring that pupils engage in the activities certain to eventuate in the proper habits and skills, information, attitudes, ideals, and the like.

Realism as a philosophy of testing and measurement is very much in evidence in the following concepts: behaviorally stated objectives, measurement driven instruction (MDI), as well as report cards (to compare school districts in achievement within a state). Programmed learning strongly emphasizes the measurement movement such as in the following writing by Harris and Sipay (1985):

Programmed materials are designed so that the user (1) encounters a series of small tasks in which success is very likely; (2) is involved in the learning process through actively responding: (3) perceives immediate feedback as to the correctness of each response. In theory, programmed materials should greatly facilitate individualized instruction because they allow each student to work almost independently with materials suitable for his or her needs, proceeding at a pace commensurate with ability and interest.

State departments of education, governors of states, as well as state senators and representatives have strongly recommended that each state establish standards (objectives) for students to attain. Tests are written to determine if the objectives, and how many, have been achieved by students. The recently passed legislation by the US House and Senate, signed by the President, as attached to the Elementary and Secondary Education Act (ESEA) emphasizes the following:

1. state mandated tests be developed which measure

student achievement in the language arts, science, mathematics, and the social studies.

2. these tests are to be given in grades 3-8 and in grade ten.

3. student test results are to be broken down in terms of gender, race, and income levels. Students who fail the state mandated tests three years in a row will be given a voucher to attend a school of their choice. Educationally bankrupt schools whose students fail to achieve adequately on the state mandated tests may be taken over by the state.

4. information from test results are to be provided to teachers so they may use it to help students achieve more adequately on the next grade level.

5. gaps in student achievement between/among the races, income levels, and minority groups are to be eliminated.

Realism then as a philosophy of education emphasizes that measurable results from pupils can be obtained to state precisely how well a student is achieving. Comparisons may be made in ascertaining how well pupils and school districts are achieving within a state. Precise information from student test results make it possible to accurately compare one student with another as well as one school district with another.

Existentialism and Student Achievement

Existentialists believe that each person should learn to make choices, from among alternatives, in society. There should be no compulsion, ideally, in making these choices. In the school setting, then, pupils need to learn to make decisions. Decision making, for example, may involve the selection of reading materials in a program of individualized reading. There needs to be an adequate number of library books on diverse genera for students when choosing what to read. With existentialist philosophy, the library books should contain content on the human experience in all of its manifestations. The dread to make many choices in life, the anxiety, the tensions, the fears, and the emotions which make a person human must be thoroughly reflected in the decisions made of what to read. The pupil, alone, needs to choose content to read and then share ideas gleaned in a conference with the teacher or with peers. The pupil needs to select what to discuss. The teacher may take notes on comprehension skills achieved by the learner. Comparisons may be made by the teacher with later conferences to notice pupil achievement. The teacher needs to notice how

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the pupil is achieving in the area of existentialist thinking. Such concepts as the following need to be understood and emphasized by the pupil: freedom, choice, dilemmas, human condition, death, living, dread, alienation, awesomeness, and anxieties. A central idea in existentialist thought is the need to personally develop reasons for living; the purpose or reasons for living are not given to any individual but must be sought.

Existentialism does not advocate

1. the use of predetermined objectives for pupil achievement, rather the objectives emerge within and from the individual.
2. testing to determine achievement, rather the pupil determines what to learn and which content to pursue. The teacher is a guide and stimulates learning.
3. external motivation, but rather believes the individual is motivated from within.
4. the learning of subject matter to the minimizing of pupils focusing upon the feelings or affective dimension of human beings. Rather, feelings are the most important part of the human condition.
5. objectivity of subject matter, but rather content acquired by the pupil is unique and subjective to the involved individual.

Pertaining to existentialist thinking, Harper (1955) wrote the following:

Existentialism, as the name implies, is a philosophy of human existence. It arose early in the nineteenth century in response to a cultural climate in which Soren Kierkegaard observed that men had forgotten what it means to exist. Men had leaned what it means to be one in a crowd, to be a mass; they had forgotten what it means to be an individual, that is what it means to die, to suffer, to decide, to love. They had forgotten what it means to stand apart, as each man is born to stand apart, from the rest of the universe and from one's fellows...

Experimentalism and Pupil Achievement

Experimentalists believe that one cannot know ultimate reality as it truly is, but he/she can experience it. The experiences will not be perfect in knowing ultimate reality, but in degrees come close enough to what is reality so that the individual can function effectively in society. Experiences emphasize the need for change in society. With experiences, problems are identified which need solving. John Dewey (1859-

1952) was a leading advocate of experimentalism as a philosophy of education. Among his many writings, Democracy and Education (Dewey, 1916) states his beliefs on teaching pupils. In his laboratory school at the University of Chicago, Dewey tried out his experimentalists beliefs in practical situations. Problem solving was a major method of instruction emphasized in the curriculum. Here, pupils with teacher assistance identified a problem in a contextual situation. The problem is delimited so that it possesses clarity. Information is gathered in answer to the problem. The information is analyzed with critical thinking involved. An hypothesis results which is tentative and subject to testing in a life-like situation. The hypothesis is revised if necessary. Problem solving is stressed as being the complete act of thought.

Experimentalists believe in integrating school and society. Thus, what is important in society, such as problem solving, is also to be emphasized in the school curriculum. School and society are not to be separated, but become integrated entities.

Experimentalism believes in assessing pupils to do the following:

1. using subject matter to solve problems. Subject matter is not to be learned for its own sake, nor to achieve predetermined objectives.
2. identifying problem areas in context as the unit of study progresses.
3. acquiring facts, concepts, and generalizations as a problem area is being solved.
4. evaluation consists of using relevant sources of information to solve a problem as well as to test an hypothesis in a functional situation.
5. being actively involved in problem solving, not passive recipients of knowledge. Interest in learning makes for student effort in achieving, growing,and developing.

Pertaining to John Dewey, Atkinson and Maleska (1965) wrote the following:

To Dewey education has two sides. -- psychological and and social: neither may be subordinated or neglected. The Psychological nature of a child forms the basis for his education -- it is the teacher's responsibility to make full use of his natural, spontaneous activities. Describing original nature as being spontaneously impulsive rather than passive, Dewey divided impulses into four kinds: the social impulses of communication or conversation; the constructive impulse to make things; the impulse to investigate things; and the impulse of artistic or

creative expression.

With these impulses in mind, said Dewey, the school must be changed from a place of sedentary listening to one for active working or doing. The teaching process must be planned to allow the child to learn whatever possible by his own experiences and, in that way, to acquire the habit of thinking...

Idealism and Pupil Achievement

Idealists believe in a subject centered curriculum. Idealism might well have been called idea-ism since it advocates an idea centered curriculum. Worthwhile idea centered objectives need to be carefully selected for pupils to attain. One cannot know ultimate reality as it truly is, but persons can receive ideas from the natural and social environment. Mind is real and needs to be developed. An alert mind is necessary to attain ideas pertaining to the natural/social environment. Mental development is then of utmost importance since ideas are to be achieved by pupils. Generalizations are more important to learn as compared to learning specifics, although the specifics support the broad ideas. Ideas need achievement rather than direct knowledge pertaining to external world, which is unknowable. Idealists believe in selected concepts being apriori. That is to say that selected ideals (here, idealism has the connotation of stressing ideals to be achieved) have always been true in time and space. Words such as truth, honesty, goodness, beauty, justice, and courage, have been true apriori, or always. The <u>will</u> must be used to achieve the abstract, since interest alone on the student's part is not adequate. To make progress in learning might well emphasize doing the unpleasant.

To achieve ideas and ideals, reason is necessary on the part of the learner. The reasoning person develops ideas and ideals which transcend sense data. Beyond sense data (seeing, smelling, hearing, touching, and tasting) are purposes and values which assist to attain the ideals of the apriori. For many idealists beyond the here and the now is God. This life may not be the finality of one's deeds and acts. The here and the now may be a testing ground for the hereafter, also called heaven. Thus beyond sense perceptions, many vital happenings transpire. Human beings are at the apex of living things. They are much higher and more significant as compared to what is called animal life.

Idealism emphasizes the coherence theory in testing statements. Thus, a true statement is one which fits in logically with others. Reason is used to test the involved logic. Pertaining

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to idealism, Brubacher (1966) wrote:

The most prolific work on the idealistic philosophy of education in the twentieth century was Herman Harrell Horne (1874- 1946). At a time when idealism was rapidly fading as the dominant American theory of education, Horne managed to draw together the various strains of idealism into their more systematic educational exposition. In addition to much that is already familiar, he made two points of his own. One is his volition and effort in learning. The pupil is like a plant, he agreed with Friedrich Froebel, in that his reasons are self-active. But the child is unlike the plant, Horne continued, in that he can withhold his response. Hence the ultimate responsibility for getting an education rests on the will of the pupil. All education, therefore, is self education; it is the result of voluntary effort put forth by a self-active mind. If not, then like Immanuel Kant (1724-1804), Horne urged that the pupil put forth effort in obedience to what he ought to do.

Idealists believe in evaluating pupils to do the following:

1. expressing subject matter acquired clearly and accurately.
2. putting forth much effort in learning.
3. being able to use reason and logic effectively.
4. using quality ideas saliently in speaking and in writing.
5. placing high worth on eternal values (apriori) such as goodness, beauty, and truth. With adequate mental development, the individual may reach out to achieve these ideas and ideals.

Perennialism is a philosophy of education directly related to idealism. Perennialists believe in students studying he Great Books of the western world. These books contain the writings of great minds of the past and their ideas have stood the test of time and place. Recent writings do not contain the wroth as do the classics. They have not, as yet, been determined as remaining important as the years have gone by. The writings of William Shakespeare, Robert Louis Stevenson, Nathaniel Hawthorne, Henry Wadsworth Longfellow, among others, tower above those of recent endeavors in literature. Perennialism spokesperson, Mortimer Adler (1902-1998), developed his philosophy in The Paideia of which Tanner and Tanner (1990) wrote the following:

The perennialists refusal to consider the nature of the learner in developing he curriculum is reflected in the Paideia Proposal. Instead of seeing childhood and youth as distinct phases of human development requiring uniquely appropriately

learning experiences for effective growth, childhood and youth are seen as being obstacles to be overcome as quickly as possible. "Youth itself is the most serious impediment-in fact, youth is an insuperable obstacle to being an educated person," declares the Proposal. The proposal goes on to call for twelve years of basic schooling for all, capped by the Socratic study of great literary works and other works of art. This kind of learning "aims at raising the mind up from a lesser or weaker understanding to a stronger and fuller one," declares Adler, and the "art of the teacher depends on the teacher's understanding of how the mind learns by the exercise of its own power," declares Adler, as though the mind exists as a separate entity.

Perennialism believes in assessing student achievement in the following ways:

1. achievement in acquiring ideas from classical writings.
2. active involvement of students in discussions pertaining to the classics by using the Socratic method of inquiry.
3. use of the mind or mental powers through the exercise of their own powers, such as in heavy student involvement in inductive learning. A questioning approach by the teacher needs to be used as an art, not a science, of teaching.

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